

WE CLAIM AS OUR INVENTION:

1. A method for operating an automatic component mounting unit comprising the steps of:

providing said automatic component mounting unit for mounting an electrical component onto a substrate of an electrical assembly, said automatic component mounting unit including a plurality of mounting members and a mounting control device for controlling each of said mounting members;

generating an amount of mounting process data for each of said mounting members prior to the installation of each of said mounting members onto said automatic component mounting unit;

storing said process data of each of said mounting unit members within a respective mounting data storage device;

installing each of said component mounting unit members onto said automatic component mounting unit;

transmitting at least a portion of said amount of mounting process data from said respective mounting data storage device of each of said mounting members to said control device upon said installation of each of said mounting members; and

processing said amount of process data by said control device for controlling each of said mounting members during said mounting of said electrical components so that each of said mounting members are readily configured for optimal use upon said installation.

2. A method according to claim 1 wherein said process data of each of said mounting members comprises an amount of positioning data.

3. A method according to claim 1 wherein said process data of each of said mounting members comprises an amount of manufacturer identification code data.

4. A method according to claim 1 wherein said process data of each of said mounting members comprises an amount of functional data.

5. A method according to claim 1 wherein said process data transmitting step comprises an electrical hard-wire process data transmission.

6. A method according to claim 1 wherein said process data transmitting step comprises a wireless process data transmission.

7. A method according to claim 1 wherein said mounting members include a mounting head and feeding member.

8. A method according to claim 7 wherein said mounting head member includes a plurality of holding elements for securely holding said component, wherein each of said holding elements includes a respective first and second holding position and wherein said holding elements include a first holding element.

9. A method according to claim 8 further comprising the steps of measuring said first and second holding positions of each of said holding elements by an optical measuring device, storing an amount of said holding position data within said mounting member data storage device wherein said amount of holding position data is generated by calculating a difference between said first and second holding position measurements, calibrating a first holding element relative to said automatic mounting unit, calibrating a remaining number of said holding elements relative to said first holding element calibration by utilizing said amount of holding position data, storing an amount of calibration data that was generated during said calibration of each of said holding elements within said mounting member data storage device,

transmitting said amount of said calibration data to said control device via said mounting member data storage device so as readily configure said holding elements for optimal use during said mounting of said electrical component.

Suba' 10. An automatic component mounting unit for mounting an electrical component onto a substrate of an electrical assembly, comprising:

29/740 a plurality of mounting members disposed for mounting said electrical component, each of said mounting members (including a respective data storage device wherein each of said data storage devices stores an amount of mounting process data of each of said respective mounting members; and

a control device disposed for controlling said automatic component mounting unit, each of said data storage devices transmitting said amount of mounting process data to said control device wherein said amount of mounting process data is utilized so as to adapt each of said mounting members for optimal use during said mounting of said electrical component.

11. An automatic component mounting unit according to claim 10 wherein each of said data storage devices includes a transponder unit for communicating with said control device in a contactless manner, and wherein said transponder unit is directly attached to each of said mounting members.

12. An automatic component mounting unit according to claim 10 wherein said mounting members include a mounting head member.

13. An automatic component mounting unit according to claim 10 wherein said mounting members include a mounting feeding member.

14. An automatic component mounting unit according to claim 10 wherein said mounting members include a mounting sensor member.

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A system for operating an automatic component mounting unit for mounting an electrical component onto a substrate of an electrical assembly, comprising a plurality of mounting members installed for mounting said electrical component wherein each of said members includes a respective data storage device for storing an amount of process data, a control device communicating with each of said data storage devices for processing said amount of process data wherein said control device utilizes said amount of process data so as to readily adapt each of said mounting members for optimal use upon installation of each of said mounting members to said automatic component mounting unit.

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